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APPLICATION NO	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO	CONFIRMATION NO
09 954,861	09 18 2001	Michael E. Miller	1039co2	8884

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J GRANT HOUSTON
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EXAMINER

HOANG, QUOC DINH

ART UNIT	PAPER NUMBER
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2818

DATE MAILED: 07 03 2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/954,861

Applicant(s)

MILLER ET AL.

Examiner

Quoc D Hoang

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on 18 September 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☐ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 06 November 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s) _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4 6) ☐ Other.

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DETAILED ACTION

Information Disclosure Statement

1. The Information Disclosure Statement filed on 09/18/01 has been considered.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-6 and 8-13 are rejected under 35 U.S.C 102(b) as anticipated over Chang et al. (US Patent 5,959,516).

Regarding claim 1, Chang et al., Figs. 5a-5e, and related text on col. 1-9 which discloses a process for fabricating a deflectable optical MEMS structure having a dielectric coating 61, the process comprising: forming a device layer 64 (col. 6, lines 55-67 and Fig. 5a); depositing a dielectric optical coating 61 over the device layer 64 (col. 6, lines 55-67 and Fig. 5a); depositing a mask layer over the device layer (col. 6, lines 56-57); patterning the mask layer (col. 6, lines 56-57); transferring a pattern of the mask layer into the dielectric coating (col. 6, lines 55-67 and Fig. 5a); and removing at least part of a sacrificial layer 66 to release the device layer 64 (col. 7, lines 1-20 and Figs. 5c-5d).

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Regarding claim 2, Chang et al., discloses removing the sacrificial layer 66 is performed after the patterning of the dielectric coating 61 (Fig. 5c).

Regarding claim 3, Chang et al., discloses removing the sacrificial layer 66 is performed, at least in part, before the patterning of the dielectric coating (Fig. 5a).

Regarding claim 4, Chang et al., discloses forming the device layer 64 comprises depositing the device layer 64 on the sacrificial layer 66 (Fig. 5a).

Regarding claim 5, Chang et al., discloses bonding the device layer 64 to the sacrificial layer 66 (col. 7, lines 1-10 and Fig. 5c).

Regarding claims 6 and 8-12, Chang et al., discloses depositing the mask layer comprises depositing a photoresist material (col. 6, lines 56-57).

Regarding claim 13, Chang et al., discloses covering the dielectric coating with a protecting layer 65 during removal of the sacrificial layer 66 (Fig. 5d).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 7 and 14-15 are rejected under 35 U.S.C 103(a) as being unpatentable over Chang et al. (US Patent 5,959,516).

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Chang et al., Figs. 5a-5e, and related text on col. 1-9 which discloses a process for fabricating a deflectable optical MEMS structure having a dielectric coating 61, the process comprising: forming a device layer 64 (col. 6, lines 55-67 and Fig. 5a); depositing a dielectric optical coating 61 over the device layer 64 (col. 6, lines 55-67 and Fig. 5a); depositing a mask layer over the device layer (col. 6, lines 56-57); patterning the mask layer (col. 6, lines 56-57); transferring a pattern of the mask layer into the dielectric coating (col. 6, lines 55-67 and Fig. 5a); and removing at least part of a sacrificial layer 66 to release the device layer 64 (col. 7, lines 1-20 and Figs. 5c-5d).

Chang et al., do not disclose the mask layer is a metal layer, and installing the membrane opposite a stationary reflector to form a tunable Fabry-Perot filter.

Chang et al., discloses depositing the mask layer over the device layer 64 without teaching the mask layer is a metal layer. The material claimed is considered an obvious design optimization and do not lend novelty to the claimed process. It would have been obvious to use a metal layer instead of the other material as a mask to protect the device layer from chemical etching. Also, Chang et al., do not disclose forming a tunable Fabry-Perot filter. The claim is considered an obvious design optimization and do not lend novelty to the claimed process.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Quoc Hoang whose telephone number is (703) 306-5795. The examiner can normally be reached on Monday -Friday from 8.00 AM to 5.00 PM.

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If attempt to reach the examiner by telephone are unsuccessful, the examiner's supervisor,

David Nelms., can be reached on (703) 308-4910

Quoc Hoang *QH*
Patent Examiner/ AU 2818

HM
HOAI HO
PRIMARY EXAMINER